

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

No claims are currently being amended. Claims 1-11 remain pending in this application.

Rejections under 35 U.S.C. §§ 102 and 103

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 4,700,131 to Miller (“Miller”). Claims 5-8 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Miller in view of alleged applicants admitted prior art (specification on pages 1-3) (“AAPA”). Claims 9-11 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Miller in view of U.S. Patent No. 6,069,393 to Hatanaka (“Hatanaka”). Applicants respectfully traverse these rejections for at least the following reasons.

Independent claim 1 is directed to a sensor device comprising “a coated electric wire wound around a detection circuit in a planar manner so as to electrostatically shield the detection circuit, wherein the electric wire is coated with an insulating material.” By contrast, Miller does not disclose a coated electric wire wound around a detection circuit in a planar manner.

Miller discloses a current sensor 10 having a tubular outer shield 12, three current carrying conductors 21-23, a Faraday shield 30, and a pair of magnetic sensing coils 42 and 43 (col. 3, lines 22-26). The Faraday shield 30 is used to provide electrostatic shielding for the coils 42 and 43 (col. 3, lines 39-44), and when assembled resembles a hollow cylinder with closed ends (col. 3, lines 52-56). Miller further discloses that the sheet 54 and conductive material 55 (which comprise the outer portions of the cylinder of the shield) of the shield may be replaced with a helical winding of insulated copper (col. 3, lines 59-60).

In contrast to claim 1, however, Miller does not disclose that its shield 30, which the Office Action equates with the coated electric wire of claim 1, comprises coated wire wound in a planar manner. While Miller discloses that the outer portions of its shield may comprise

helically wound wire, the wire in this case would form a shield having a cylindrical shape only, and would not have any planar portion. Miller fails to anticipate claim 1 for at least this reason.

Moreover, Miller also fails to disclose that its shield 30, which the Office Action equates with the coated electric wire as recited, shields a detection circuit. Miller merely discloses that the Faraday shield shields the magnetic sensing coils 42 and 43, not a circuit.

The AAPA and Hatanaka fail to cure the deficiencies of Miller.

Moreover, one skilled in the art would not have modified Miller in view of Hatanaka in the fashion suggested in the Office Action. The Office Action states on page 5:

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Miller by replacing the magnetic current sensor with a photoelectric sensor disclosed by Hatanaka for converting light from a region into an electric signal including the electrostatic shield disclosed by Hatanaka for providing stable photo current.

Applicants respectfully disagree. The Miller device is a current sensor. One skilled in the art would not have modified the Miller current sensor to be a photoelectric sensor, because such a modification would have rendered the Miller device unfit for its intended purpose, which is to sense current, not light.

The dependent claims are patentable for at least the same reasons as independent claim 1, from which they ultimately depend, as well as for further patentable features recited therein. For example, claim 3 recites “a detection circuit board having the detection circuit; and a cylindrical case; wherein the coated electric wire is wound around the detection circuit board in a cylindrical manner so as to form a cylindrical surface, and the direction of an axis of the cylindrical surface is parallel to the direction of the axis of the case.” By contrast, element 57 of Miller, which the Office Action equates with the circuit board of claim 3 is a bobbin, not a circuit board. Moreover, the bobbin 57, has an opening for receiving the shield 30 (col. 4, lines 19-21), which the Office Action equates with the coated wire as recited. Thus, any wiring of the shield 30 would be within the bobbin, not wound around a circuit board as in claim 3.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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